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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,685	02/04/2004	Kuniaki Noda	450100-04929	4819

7590 09/10/2007

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EXAMINER	
WEISKOPF, MARIE	

ART UNIT	PAPER NUMBER
3661	

MAIL DATE	DELIVERY MODE
09/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/771,685	NODA ET AL.	
	Examiner	Art Unit	
	Marie A. Weiskopf	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 6, 7, 10-15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Osawa (US 6,519,506 B2).

As per claims 1, 2, and 6, Osawa discloses a robot (col. 2, lines 18-19) apparatus for performing autonomous (col. 3, lines 23-25) motion based on inner states or external stimuli (col. 3, lines 32-34), comprising expression means (31) having a plurality of expressive units for independently and orthogonally producing a plurality of expressions (col.4, lines 24-28); correlating means (30) for correlating a plurality of orthogonal states, which are based on said inner states or external stimuli (col. 3, lines 33-34), with at least one of said expressive units (col. 3, lines 47-53); performing one or more reflective behaviors based on external stimuli (Column 3, lines 5-16); determining that the one or more reflective behaviors are associated with a single schema (Column 3, lines 30-40); and control means (10) for controlling said expression means for representing the plural orthogonal states in parallel, using the correlated expressive units and the one or more reflective behaviors (col. 3, lines 30-40). Osawa further

discloses a control means (10) to control said expression means (31) using one or more of the expressive units having parameters variably controlled responsive to each expressive element of said states (col. 4, lines 24-28). Osawa further discloses a correlating means (30) that outputs said correlation by control commands having a different priority rating and wherein upon issuance of plural control commands, having a different priority rating, prioritizing the control command having a higher priority rating (col. 6, lines 8-14).

As per claims 7, 10-12, and 16 Osawa discloses a robot apparatus for selecting and executing at least one of a plurality of motions, comprising expression means (31) having expressive units variably controlled by a parameter for producing a plurality of expressions (col. 4, lines 24-28); command issuing means (33) for issuing a control command on motion selection, said control command being a command in which said expressive units are correlated with the selected motion (col. 3, lines 38-40); means for performing one or more reflective behaviors based on external stimuli (Column 3, lines 5-16); means for determining that the one or more reflective behaviors are associated with a single schema (Column 3, lines 30-40; Column 4, lines 25-36) and control means (10) for controlling said expression means by said control command (col. 6, lines 8-14); said control command having a priority rating (col. 6, lines 8-14); said control means on issuance of plural control commands having a different priority rating controlling said expression means in accordance with the control command having a higher priority rating and the one or more reflective behaviors (figure 5). Osawa further discloses a command issuing means further comprises (33) a plurality of behavior stating modules

(col. 6, lines 25-32) stating the motions of a robot body (col. 7, lines 2-8); wherein when one of the behavior stating modules is selected, the selected behavior stating module issues a control command having a priority rating that matches (col. 6, lines 8-14) the motion of the robot body (col. 7, lines 2-8). Osawa further discloses that the control command issued by the behavior stating module selected on the basis of a command from outside the robot (col. 3, lines 33-34) has a higher priority rating (col. 6, lines 8-14) than a control command issued by the behavior stating module selected on the basis of an inner state of the robot or a state of recognition (col. 3, lines 33-34). The fact that a command that results from an external factor can have priority over an internal factor is inherent to the listing of input events based on priority (col. 6, lines 8-14) as disclosed by Osawa. Osawa further discloses expression means (31) including plural orthogonal expressive means (col. 4, lines 24-28).

As per claims 13-15, Osawa discloses a method for expression by a robot apparatus (col. 2, lines 18-19) capable of performing autonomous motions (col. 3, lines 23-25) based on inner states and/or external stimuli (col. 3, lines 33-34), said method comprising correlating a plurality of orthogonal states, which are based on said inner states or external stimuli (col. 3, lines 33-34), with at least one of a plurality of expressive units, which are owned by expression means and which are capable of being orthogonally expressed independently of one another (col. 4, lines 24-28); performing one or more reflective behaviors based on external stimuli (Column 3, lines 5-16); determining that the one or more reflective behaviors are associated with a single schema (Column 3, lines 30-40; Column 4, lines 25-36); and controlling said expression

means for representing the plural orthogonal states in parallel, using the correlated expressive units and the one or more reflective behaviors (col. 3, lines 30-40). Osawa further discloses controlling said expression means by expressive elements (col. 4, lines 24-28) the parameters of the expression means are variably controlled responsive to respective expressive elements of said inner states (col. 4, lines 28-36). Osawa further discloses a correlating step where said correlation (col. 3, lines 30-40) outputting the correlation by control commands (col. 6, lines 25-32), the control commands having a priority rating (col. 6, lines 8-15); prioritizing the control command having a higher priority rating (col. 6, lines 8-15).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa (US 6,519,506 B2), in view of McKinney, JR. et al. (US 2003/0004611 A1).

Osawa discloses all the claimed elements as mentioned in claim 1, and Osawa further discloses a light radiating device (col. 3, lines 20-22) and wherein the robot apparatus has an appearance and simulating an animal (col. 13, lines 54-55) where the light radiating device is provided at a location corresponding to an eye of the robot apparatus (col. 3, lines 20-22). Osawa fails to explicitly disclose using multiple colors for expressions.

McKinney in the same field of invention discloses a robot apparatus that allows the eyes (128) of the robot (100) to express moods through different combinations of lighting (paragraph 53). McKinney also discloses using multiple colors in the expressions of the robot (paragraph 53).

From this teaching of McKinney, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the robot apparatus of Osawa to include multiple colors for the plurality of expressions of the robot as taught by McKinney in order to allow the robot to communicate with people in a room and provide emotions (McKinney, paragraph 7).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa (US 6,519,506 B2), in view of Yamada et al. (US 2002/0081937 A1).

Although Osawa discloses all the claimed elements as mentioned in claim 1, Osawa fails to explicitly disclose an uttering means where the expressive units include two or more of sound pitch, sound volume, and rhythm.

Yamada in the same field of invention discloses a robot apparatus that outputs sound through a speaker (72) by processing tone and pitch for vocalization (paragraph 224) and also corresponds movement of the robot as shown in figures 57 and 58 based on the volume, speed, rhythm, and so on of the sound (paragraph 320).

From this teaching of Yamada, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the robot apparatus of Osawa to include a sound output or uttering means where expressive units include two or more of sound pitch, sound volume, and rhythm as taught by Yamada in order to

allow the robot to generate sound (Yamada, paragraph 16) and react in correspondence with external information and sound output (Yamada, paragraph 17).

6. Claims 8-9 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable over Osawa (US 6,519,506 B2), in view of Inoue et al. (US 6,442,450 B1).

Although Osawa discloses all the claimed elements as mentioned in claim 7 and 16, Osawa fails to disclose where a command is issued higher in priority than the current command, resulting in the current command being discontinued in order to implement the higher priority command. Osawa further fails to explicitly disclose re-initiating the interrupted command above once the higher priority command has come to a close.

Inoue in the same field of invention discloses issuing a command higher in priority than the current command, resulting in the current command being discontinued in order to implement the higher priority command (col. 27, lines 63-67). Inoue further discloses inherently that the interrupted command would be reinitiated after the higher priority command has come to a close in figures 25A and 25B. In figures 25A and 25B a command of higher priority is shown entering a queue resulting in the current commands being executed after the command of higher priority.

From this teaching of Inoue, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a robot apparatus of Osawa to include stopping a current command for a higher priority command and continuing the

original command when the higher priority command is complete as taught by Inoue in order to optimize positions and motions during transition (Inoue, col. 1, lines 51-55).

Response to Arguments

7. Applicant's arguments filed 7/2/07 have been fully considered but they are not persuasive. Applicant argues that the reference does not contain the new amendments to the claims but fails to specifically point out how the reference is different from the newly amended claims. Examiner respectfully disagrees that the prior art, Osawa, fails to disclose the new amendments, as discussed above. Osawa discloses all areas pointed out by the applicant, which are included in the above rejection. Specifically, Osawa discloses performing one or more reflective behaviors based on external stimuli (Column 3, lines 5-16) and determining that the one or more reflective behaviors are associated with a single schema (Column 3, lines 30-40; Column 4, lines 25-36) and finally control means for controlling the expression means for representing the plural orthogonal states in parallel, using the correlated expressive units and the one or more reflective behaviors (Column 3, lines 30-40).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571) 272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

THOMAS BLACK
SUPERVISORY PATENT EXAMINER